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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,435	07/24/2001	Andrea Cigada	854063.654	4844

500 7590 01/13/2005

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EXAMINER


VAN, QUANG T

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/912,435	Applicant(s) CIGADA ET AL. 	
	Examiner Quang T Van	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 11/23/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 7, 9, 11, 13-14, 16-17, 19 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Linn et al (US 5,882,423) cited by applicant. Linn discloses a plasma cleaning method comprising the step of introducing said integrated circuit package (11) inside a plasma chamber (21); and exposing said integrated circuit package (11) to a physical plasma (col. 6, lines 26-31) for selected time and strength to remove an upper layer of material from the package (col. 5, lines 22-34); and placing a pattern of ink marking on said package for marking said package (col. 1, lines 57-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-9, 11-14, 16-24 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Arita et

al (US 6,418,941) cited in Previous Action filed on 05/18/04. Linn discloses a plasma cleaning method comprising the step of introducing said integrated circuit package (11) inside a plasma chamber (21); and exposing said integrated circuit package (11) to a noble gas ion plasma (col. 6, lines 26-31) for selected time and strength to remove an upper layer of material from the package (col. 5, lines 22-34); and placing a pattern of ink marking on said package for marking said package (col. 1, lines 57-63). However, Linn does not disclose noble plasma being physical plasma. Arita discloses noble plasma being physical plasma (col. 2, lines 12-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn a noble plasma being a physical plasma as taught by Arita in order to provide a cleaning on the integrated circuit. With regard to claim 20, "said noble gas is helium". It would have been obvious to one having ordinary skill in the art at the time the invention was made to use plasma gas is helium. Since helium gas is noble gas, doing so would improve the quality of the plasma gas.

5. Claims 5 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Arita et al (US 6,418,941) and further in view of Chang et al (US 5,043,299). Linn/Arita disclose substantially all features of the claimed invention except the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds; energization power between 140 and 160W; and plasma chamber pressure between 190 and 210 millitorr. Chang discloses the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds

(col. 4, lines 26-31); energization power between 140 and 160W (col. 3, lines 49-54); and plasma chamber pressure between 190 and 210 millitorr (col. 3, lines 36-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn/Arita the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds; energization power between 140 and 160W; and plasma chamber pressure between 190 and 210 millitorr as taught by Chang in order to improve the cleaning quality of the integrated circuit package.

6. Claims 10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Arita et al (US 6,418,941) and further in view of Mitra et al (US 6,232,153). Linn/Arita disclose substantially all features of the claimed invention except said ink marking process being carried out using a laser ink marking technique. Mitra discloses an ink marking process being carried out using a laser ink marking technique (abstract, lines 5-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn/Arita an ink marking process being carried out using a laser ink marking technique as taught by Mitra in order minimize degradation of electrical performance and improving yields and reliability.

7. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Arita et al (US 6,418,941) and further in view of Wensel (US 6,230,719). Linn/Arita disclose substantially all features of the claimed invention except the integrated circuit package is one of a frame of

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integrated circuit packages cleaned during the cleaning step. Wensel discloses an integrated circuit package is one of a frame of integrated circuit packages cleaned during the cleaning step (col. 4, lines 49-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn/Arita an integrated circuit package is one of a frame of integrated circuit packages cleaned during the cleaning step as taught by Wensel in order to allow for use in high throughput processes.

Response to Amendment


8. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QV
QV
1/10/05


Quang T Van
Primary Examiner
Art Unit 3742